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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/510,342	10/05/2004	Yukihiko Taguchi	018842.1319	8373

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EXAMINER	
WEINSTEIN, LEONARD J	
ART UNIT	**PAPER NUMBER**
3746	

NOTIFICATION DATE	DELIVERY MODE
08/15/2007	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary	Application No.	Applicant(s)	
	10/510,342	TAGUCHI, YUKIHIKO	
	Examiner	Art Unit	
	Leonard J. Weinstein	3746	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *22 May 2007*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-5* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-5* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *22 May 2007* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

1. This office action is in response to the amendment of May 24, 2007. It is noted that changes to figure 4 and the specification have been made in response the objections set forth in office action of March 22, 2007. Further it is noted that claim 1 has been amended. In making the below rejections and/or objections the examiner has considered and addressed each of the applicant's arguments.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

3. Claims 1-4 are rejected under 35 U.S.C. 102(a) as being anticipated by Kimura 2001/0003573 now US Patent 6,481,976. Kimura teaches all the limitations as ~~substantially~~ claimed for a control valve for a variable displacement compressor, figure1, including: a displacement control valve 34 disposed at a position in a discharge pressure supply passageway 33 capable of communicating with a crank chamber 15 from a discharge chamber 23, a fixed orifice, the valve seat defined by element 59, provided at a position in a pressure relief passageway 58 communicating with a suction chamber 22 from said crank chamber 15, said displacement control valve 34 being controlled in opening/closing operation to regulate a pressure in said crank chamber 15 to control a piston stroke (¶0052-0053), a pressure sensing member 49 being expanded and contracted by sensing a pressure in said suction chamber 22 or said crank chamber 15, a valve element 43 one end, 43a of 43, of which is brought into contact with said pressure sensing member 51 and has a valve part 43c opening and closing a

valve hole, the valve seat defined by element 55, formed in said discharge pressure supply passageway, 46 of 33, in response to an expansion/contraction of said pressure sensing member 51, a valve chamber 47 in which said valve part 43c is disposed and to which a pressure in said crank chamber 15 acts, via element 53, a partition wall, as shown in figure 1 or 7, disposed around said valve element 43 at a position in an axial direction of said valve element 43, a pressure chamber, area between elements 44 and 59 as shown in figure 4, partitioned from said valve chamber 47 by said partition wall, partition defined by valve seat of element 59, and to which a pressure in said suction chamber 22 acts, via element 58, and a solenoid 42 provided to the other end, 43d of element 43, of said valve element 43 and capable of controlling an opening degree of said valve part 43c by an increase/decrease of an electromagnetic force (¶0083-0084), and a flow passage from said valve chamber 47 to said pressure chamber, area between elements 44 and 59 as shown in figure 4, formed in a portion disposed with said partition wall 59, whereby a gap, area created by bore constituting element 47, inner circumference of element 59, and outer circumference of element 43, is defined between said partition wall, partition defined by valve seat of element 59, and said valve element 43 for forming a non-contact structure which does not give a sliding resistance, as can be seen in figure 2, relative to a movement of said valve element 43 in its axial direction; and a gap, area created by bore constituting element 47 and inner circumference of element 59, forming the fixed orifice, figure 4; a partition wall 59 fixed at a valve casing side 41 of the displacement control valve 34, and the gap, area created by bore constituting element 47 and inner circumference of element 59, is defined between an inner circumferential surface of the partition wall 59 and an outer circumferential surface of the valve element 43. Further in a third embodiment, as shown in figure 8, Kimura '573 teaches a valve for a variable

displacement compressor having a partition wall 44b is fixed to the valve element 43, and the gap is defined between an outer circumferential surface of the partition wall 44b and an inner circumferential surface of a valve casing, 47 (Lower Region) of element 41 as shown in figure 8, of the displacement control valve 34.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5. The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

6. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kimura et al. 2001/0003573 in view of Taguchi 5,332,365. Kimura teaches the invention as discussed and a control valve for a variable displacement compressor including a solenoid 42 having an electromagnetic coil 65 excited for generating an electromagnetic force, an iron core 44 for generating a magnetic force by excitation of said electromagnetic coil 65, a plunger 62 attracted and moved towards an iron core side 44c by the magnetic force of the iron core 44, and an end of a valve element, 43e of element 43, being fixed to said plunger 62 which is held slidably in an axial direction of the valve element 43. Kimura fails to teach the claimed limitation that is

taught by Taguchi for a control valve for a variable displacement compressor wherein a plunger 451 is attracted to a fixed iron core 412 due to a magnetic force, and a gap 412a defined between a fixed iron core 412 and a valve element 460 forming a non-contact structure which does not give a sliding resistance relative to a movement of the valve element 460 in its axial direction. The end of the valve element 460 is a non-magnetic component, element 484, that is in integral communication with the main valve element, rod 481, of the control valve taught by Taguchi. It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the iron core 44 of Kimura to be a non-magnetic plunger connected to a valve element 43 and modify the solenoid to have a fixed iron core in between a plunger connected to an upper portion of the valve element and a plunger connected to the lower end of the valve element to provide a control valve that can quickly reduce a pressure in a crank chamber of a variable displacement compressor without damaging the internal components of a variable displacement compressor (Taguchi col. 3 ll. 64-68).

Response to Arguments

7. Applicant's arguments filed May 22, 2007 have been fully considered but they are not persuasive.

8. The rejection of claim 1 has been modified in response to the applicant's amendment. With regards to the Kimura reference the applicant argues that Kimura fails to disclose "a gap is defined between said partition wall and said valve element for forming a non-contact structure which does not give a sliding resistance relative to a movement of said valve element in its axial direction," with respect to claim 1. The applicant argues that Kimura fails to disclose a "partition wall," described by claim 1 as amended. The applicant also argues that the instant

invention discloses a non-movable "partition wall" that is "a non-contact structure which does not give a sliding resistance," and a modification to the element 44b would change the operation of Kimura. The applicant argues that in view of the amendments to claim 1, the anticipation rejections of claims 2-4 and the obviousness rejection of claim 5 should be withdrawn.

9. In response to applicant's argument that Kimura fails to disclose "a gap is defined between said partition wall and said valve element for forming a non-contact structure which does not give a sliding resistance relative to a movement of said valve element in its axial direction," the examiner disagrees. In the office action of March 22, 2007 element 59 was identified as an analogous structure to the partition that was claimed in claim 1. Element 59 forms an inner circumferential surface with a diameter smaller in size than the bore within element 45 that accommodates elements 60 and 44 and forms a pressure chamber, element 47 (lower region). The bottom surface of element 59 forms a wall disposed between a valve chamber (upper region) of element 47, and a pressure chamber (lower region) of element 47 as shown in figure 2. In response to applicant's argument that Kimura does not teach a "non-movable 'partition wall'" as disclosed, it is noted that the features upon which applicant relies (i.e., non-movable partition wall) are not recited in the rejected claim 1. Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993). Further element 59, identified as a "partition wall," is fixed a element and therefore non-movable.

In response to the applicant's argument making reference to element 44b, the examiner notes that for purposes of examining the limitations of claim 4, an alternate embodiment of Kimura was cited in the office action of March 22, 2007. The movable wall, element 44b, was

not considered and was not identified as a partition wall in the office action of March 22, 2007 with respect to claim 1. Element 44b was interpreted to be a partition wall as viewed in light of the limitations of claim 4. A modification to this element is not required in order for Kimura to teach a partition wall as claimed in claim 1.

In response to applicant's argument that Kimura does not teach a partition wall forming a non-contact structure, the examiner disagrees. The partition wall of Kimura as identified above does not come into contact with valve element 43 and a gap is formed between the the inner circumference of the partition wall 59 and the outer circumference of the valve element 43. The inner circumference of element 59 and element 43, identified as the valve element, are never in contact with one another therefore element 43 is not impeded from sliding up and down during operation by the partition wall 59.

Independent claim 1 is rejected as being anticipated by Kimura as discussed above, and the anticipation rejections of claims 2-4 and the obviousness rejection of claim 5 have been upheld.

Conclusion

10. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a)

will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Leonard J. Weinstein whose telephone number is 571-272-9961. The examiner can normally be reached on Monday - Thursday 7:00 - 5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Anthony Stashick can be reached on 571-272-4561. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

LJW

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